

REMARKS

Reconsideration and allowance of this application are respectfully requested in view of the above Amendment and the discussion below.

Claims 1-4, 9-12 and 17 have been rejected under 35 U.S.C. §103 as being unpatentable over the reference to Hattori et al. (U.S. Patent No.: 6,048,289) in view of Fumio et al. (Japanese Publication No.: 09271151). According to the statement of the rejection Hattori has been cited for teaching a hybrid electric vehicle with an engine and an electric motor connected in series to a drive shaft but there is no teaching of forward/reverse switching gears but rather that the motor may be driven in reverse direction. According to the rejection, the reference to Hattori fails to teach the motor as being a permanent magnet machine in a stator core with the rotor arranged in the stator and a plurality of permanent magnets with the rotor being non-symmetrical at each pole. Nor does the reference, according the rejection, have a magnet accommodating slot which will have a greater width than a magnet width on a side associated with one rotational direction.

The reference to Fumio has been cited for teaching a motor structure including a stator with an iron core 22 with a coil 24 and a rotor 30 arranged inwardly from the stator separated by a stator-rotor gap with a non-symmetric arrangement characterized by a plurality of permanent magnets 36 installed in the slots as shown in Fig. 5. According to the rejection, an open portion is provided in the slot in one rotational direction for the purpose of delivering a greater torque. The conclusion of the rejection is that it would have been obvious to combine the magnetic insertion openings of Fumio with Hattori with the various other relationships of the claimed invention being indicated as obvious on the bottom of page 4 of the patent Office Action.

Applicants respectfully traverse this rejection on the grounds that independent claim 1 provides structure not shown or disclosed or made obvious by the references or their combination.

The reference to Hattori is a hybrid vehicle which, as indicated by the outstanding Office Action, fails to disclose the permanent magnet relationship claimed in claim 1 particularly with respect to the permanent magnet inserting holes and their respective relationships in the rotor of the presently claimed invention.

The reference to Fumio has a structure in which the non-magnetic portions are provided in the opposite direction to the rotor when the rotor is driven in a normal rotating direction so that the torque and the normal rotating direction is made larger than the torque and the reverse rotating direction. Fumio specifically requires that the rotating direction be limited to one direction. When the vehicle is to move backwards, the rotational speed of the dynamo-electric machine is reduced by the speed change mechanism and the transmitted rotational direction is reversed. Therefore, Fumio has no need or reason for increasing the torque and the reverse rotation direction.

Claim 1 requires that the space (10), resulting from a difference in width between the inserting hole (a) and the permanent magnet (8) having a width (b), is disposed forward of the permanent magnet in a direction of rotation of the rotor shown in Figure 1 of the present invention. The space 10 is in the direction of forward rotation. In contradistinction Figures 2 and 5 of Fumio show a space which is not positioned forward of the direction of rotation shown by the arrow B in Figures 2 and 5. Because there is only one direction of rotation used in Fumio that direction must be the labeled direction B which causes forward movement. It is also apparent from Fumio that the space or the non-magnetic portion is in back of the magnets in Fumio.

Therefore it must be emphasized that Fumio accomplishes reverse movement or backward movement of the vehicle by "speed change mechanisms" so that the transmitted rotational direction is reversed. Thus there is no need or reason to increase the torque in the reverse rotation direction. The presently claimed invention specifically requires a machine and an engine connected to a drive shaft in series without a switching gear for the forward and backward

movement. Fumio does have a switching gear and positioning of the non-magnetic portion or space is at a different location so that the structure of Fumio is not the same as the structure of the presently claimed invention and therefore even if the references are combined Applicants invention, defined by independent claim 1 and dependent claims 5, 7, 9, 13 and 17, would not result.

In response to the objection of claim 17 concerning the multiple dependent claim, Applicants have amended claim 17 so that it depends only from independent claim 1.

Additionally, a new Abstract is included which meets the requirements of MPEP 608.01.

Applicants are also submitting a clarification to Figure 1 and a new Figure 13 showing the claimed curved structure for the structure. Accompanying changes in the specification address these drawing changes. No new matter is added.

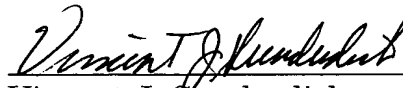
Therefore, Applicants respectfully request that this application, which defines over the art of record, be allowed and be passed to issue.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to affect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to affect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #056203.49196C1).

Respectfully submitted,

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Enclosure(s)

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Amendments to the Drawings:

The attached sheet of drawings includes changes to Fig. 1 and adding new Fig. 13.

Attachment(s): Replacement Sheet
 Annotated Sheet Showing Changes
 New Sheet